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DETROIT STUDY OF THE EFFECTIVENESS OF HIGH SCHOOL EDUCATION FOR ENTRANCE INTO THE WORLD OF WORK.

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PRIMARY OBJECTIVES OF THIS PILOT PROJECT WERE TO (1) DEVELOP AND TEST INSTRUMENTS FOR GATHERING DATA RELEVANT TO QUANTITY AND TYPES OF ENTRY JOBS AVAILABLE IN A SELECTED COMMUNITY AND THE CONCOMITANT TALENTS DEMANDED BY BUSINESS FOR THESE JOBS, AND (2) DEVELOP AND TEST INSTRUMENTS FOR GATHERING DATA CONCERNING WORK ACTIVITIES OF RECENT DROPOUTS AND GRADUATES. FERNDALE, A COMMUNITY IN THE DETROIT METROPOLITAN AREA, WAS SELECTED FOR THE STUDY. THREE INSTRUMENTS WERE DEVELOPED--(1) INSTRUMENT A FOR STUDYING ALL TYPES OF BUSINESS AND INDUSTRIAL FIRMS IN THE COMMUNITY. FROM A TOTAL OF 756 FIRMS, 200 WERE DRAWN FOR A SAMPLE, AND 154 INTERVIEWS WERE COMPLETED, (2) INSTRUMENT B FOR SURVEYING THOSE BUSINESS AND INDUSTRIAL FIRMS WHICH OFFERED THE GREATEST ENTRY JOB OPPORTUNITIES. FROM A SAMPLE OF 50, 88 PERCENT WERE CONTACTED, (3) INSTRUMENT C FOR SURVEYING RECENT SCHOOL LEAVERS TO DETERMINE THEIR EMPLOYMENT PATTERNS. FROM THE GRADUATION CLASS OF 1960 (366 STUDENTS), 55 WERE SELECTED RANDOMLY. STEPS ARE OUTLINED FOR SELECTION OF THE THREE SAMPLE POPULATION. CONCLUSIONS WERE--(1) THE TECHNIQUES AND INSTRUMENTS USED IN CONTACTING A VALID SAMPLING OF EMPLOYERS WERE APPROPRIATE AND PROVIDED AN EFFECTIVE MEANS FOR DETERMINING THE TYPE, QUANTITY, AND REQUIREMENTS OF THE JOB AVAILABLE TO STUDENTS, AND (2) THE INSTRUMENTS USED FOR FOLLOWUP OF HIGH SCHOOL GRADUATES WERE EFFECTIVE. INSTRUMENTS AND FINDINGS OF THE SURVEYS ARE INCLUDED. (FS)

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DIVISION OF
VOCATIONAL EDUCATION
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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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DETROIT STUDY OF THE EFFECTIVENESS OF HIGH SCHOOL EDUCATION FOR ENTRANCE INTO THE WORLD OF WORK

A Report Prepared By

Dr. Fred S. Cook

For

The Research Committee Of The
Business Teachers' Club of Metropolitan Detroit,
Detroit Public Schools, Wayne State University, and University of Michigan

To

Division of Vocational Education
Department of Public Instruction
Lansing, Michigan

June, 1963

P R E F A C E

The following report is a summary of a pilot study funded by the Vocational Education Division of the Department of Public Instruction for the State of Michigan.

This project was initiated by the Research Committee of the Business Teachers' Club of Metropolitan Detroit. It was reviewed, refined, and approved by personnel from the Detroit Public Schools, the University of Michigan, and Wayne State University. In the development and refinement of the pilot study, consultations were held with representatives of business associations, labor, management, and government.

Those involved in the development and approval of the proposal include:

A. From the Detroit Public Schools:
   1. Dr. Samuel Brownell, Superintendent of Schools
   2. Mr. Leslie Whale, Director of Business Education
   3. Miss Jeanne Reed, Supervisor of Business Education (and Chairman of the Research Committee of the Business Teachers' Club of Metropolitan Detroit)
   4. Miss Ann Lind, Supervisor of Retailing Education
   5. Mr. Willard Clark, Mr. Harry Baker, Dr. Louise Harris, Mr. Clyde Kammerer, Mr. Philip Baird, Miss Mary Smith, and Mrs. Hannah Walker, business teachers.

B. From the University of Michigan:
   1. Dean Willard Olson, School of Education
   2. Dr. Frank W. Lanham, School of Education.

C. From Wayne State University:
   1. Dean F. C. Rosecrance, College of Education
   2. Dr. Joseph Hill, College of Education
   3. Mr. Clifford M. VanBuskirk, Grant and Contract Officer
   4. Dr. Fred S. Cook, College of Education
   5. Dr. Alfred Mayer and Mrs. Rosemary Reid, Institute for Urban and Regional Studies.

Wayne State University was designated as the fiscal agent for the project.

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PART I

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This pilot project, DETROIT STUDY OF THE EFFECTIVENESS OF HIGH SCHOOL EDUCATION FOR ENTRANCE INTO THE WORLD OF WORK, was financed by Vocational Education Funds from the Michigan Department of Public Instruction. It was a cooperative undertaking, initiated by the Research Committee of the Business Teachers' Club of Metropolitan Detroit and co-sponsored by the Detroit Public Schools, the University of Michigan and Wayne State University.

The study was devised to accomplish two primary objectives:

A. To develop and field test research techniques, instruments and procedures for the systematic collection of data relevant to
   1. Entry job requirements and opportunities for inexperienced high school leavers.
   2. Post high school work history of high school leavers.

B. To develop a proposal for a long range research program utilizing these research techniques, instruments, and procedures and to submit this proposal to an organization for funding.

Conclusions

A. The procedures for contacting a valid sampling of employers was developed and tested in the city of Ferndale. The techniques and instruments used are appropriate and apparently provide an effective means of determining the type, quantity and requirements for the job available to students without previous work experience.

B. These instruments and procedures, with limited modifications, can be adapted to a larger study and should provide relevant data for subsequent curriculum innovations.

C. The instruments used for the follow-up of high school graduates were effective, but the procedures for contacting non-graduates needs more time for development than was available in the pilot study.

D. The interview technique seems to be the most relevant in terms of the data required. Special attention must be given to an adequate training period for all interviewers.

E. The "seed money" provided by the Department of Public Instruction enabled the research committee to secure adequate time and technical assistance for the development of a long range proposal.

Recommendations

A. The materials developed as a result of this pilot study should be revised and incorporated into a request for funding of a two to three year study by the United States Office of Education. Preliminary steps have been taken along these lines which lead the researchers to believe that such a proposal will be favorably received.

B. Alternate methods for the selection of the employer sample should be investigated in future studies.

C. The interviewing procedures should be simplified so that only one instrument will be used in the future. For example, "depth" interviews would be held with employers who indicated a positive inclination to hire recent school leavers. In the present study, a second instrument and a second sampling was developed. This added to the time and expense of collecting data, as well as to the difficulty of assessing the results.

PART II

STATEMENT OF THE PROBLEM

The Problem

In the Detroit Metropolitan Area, there are many skilled workers whose occupations are being changed by automation and other technological developments. How have these changes affected the number and type of entry job?* There is evidence that youth in the Detroit Area who have not developed their talents or skills constitute a major portion of the "hard core" of unemployed. Consequently, questions are being raised about the development of special skills to meet the changing job opportunities for high school students--drop-outs as well as graduates.

Most of the studies made to date have been concerned with the exceptional student. Little research has been done concerning skill needs of the office and distributive occupations. Yet, this segment of the high school curriculum accounts for approximately one-third of the total high school enrollment. Furthermore, it provides one of the few opportunities for high school students to secure initial employment in jobs requiring special training and skills. Therefore it is reasonable to ask what abilities and skills mark a youngster as being talented for the changing job market.

The new job requirements necessitate consideration of effective modifications in the high school and post-high school curricula in order to prepare students to utilize their talents in the world of work. Concurrent changes must also be considered in the teacher education programs--both pre-service and in-service.

The Michigan Employment Security Commission and other government agencies have, for example, data relative to the number of clerical and kindred workers currently employed, as well as projected employment. They have not, however, determined the specific entry jobs, nor the skills needed by inexperienced high school business students to secure these initial office and distributive jobs.

To date, no systematic procedures have been developed to apply sampling techniques (as used by the Gallup Institute) for

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*Entry job--first, full-time job (minimum 35 hour week and hired on permanent basis) with no previous full-time experience in a related field.

collecting data concerning entry job opportunities and requirements. Nor, have these techniques been applied to the systematic collecting of data concerning the post high school activities of drop outs and graduates in the world of work. Without such data, no effective changes can be made in the curriculum.

The Objectives

The primary objectives of the pilot study were:

A. To lay the groundwork for the preparation of valid sampling techniques and survey instruments. For example:
   1. To develop and test instruments to gather data relevant to quantity and types of entry jobs available in a selected community and the concomitant talents demanded by business for these jobs.
   2. To develop and test instruments to gather data concerning work activities of recent school leavers in a selected community (drop outs and graduates) as they relate to entry jobs.

B. To prepare a proposal for a long-range research program utilizing these research techniques, instruments and procedures and submitting this proposal to the United States Office of Education for funding.

It is hypothesized that the instruments, techniques, and procedures developed in the pilot study and refined in the subsequent long-range research project will be applicable to other curricula and to other geographical areas.

PART III

METHODS OF PROCEDURE

Procedures

For purposes of this study it was determined that it would be necessary to confine the sampling to a specific community within the Detroit Metropolitan Area, rather than attempt to do the study within the city of Detroit. Ferndale was selected because of its size (in terms of total business enterprises), its location and accessibility for interviewing, and the availability of personnel willing to cooperate with the researchers in this project. This personnel included representatives from the public schools and the city government.

Three basic instruments were developed to collect data relevant to objective A above. The following is a brief explanation of the purpose of each instrument: (See Appendix A-3 for complete details)

Instrument A--To survey all the types of business and industrial firms in the community to determine:

1. The past, present and future entry job opportunities for current high school leavers (any person between the ages of 16-22).
2. In what segment (or segments) of the business and industrial community does the greater probability exist for entry job opportunities for the current high school leaver?

Instrument B--To survey those segments of the business and industrial community which offer the greatest entry job opportunities for the current high school leavers to determine:

1. The past, present, and immediate future job opportunities for the current high school leavers.
2. The specific employer demands for those entry jobs in terms of educational training and skills.

Instrument C--To survey the current high school leavers in the community to determine the employment patterns of students after leaving high school.

The research design which was developed to accomplish the above objectives included methods for obtaining a statistically valid sample, the collection of relevant data, and the analysis

of the data as it related to these objectives. The balance of this section will be devoted to a description of these procedures as they relate specifically to each individual instrument.

Instrument A

This instrument was designed to determine the number and types of jobs available through a survey of all the types of business and industrial firms in the community. There were two broad questions to be answered:

A. What is the past, present, and immediate future entry job opportunities for current school leavers in this community?

B. What segment of the business community offers the greatest entry job opportunities for current high school leavers?

The survey instrument which was developed to secure answers to these two broad questions also attempted to secure data on:

A. What are the attitudes of employers towards hiring high school graduates and non-graduates with no previous full-time work experience?

B. What hiring patterns have been utilized by employers during the past two years regarding high school graduates and drop-outs with no previous full-time experience?

C. For what types of jobs were these high school graduates and drop-outs hired? What courses and skills were required for these jobs?

D. What will be the total number of entry jobs available for the next year, for high school graduates and drop-outs with no previous full-time experience?

Outline of Survey Procedures Used in the Study

A. Sampling Design
   1. The sampling theory which seems most appropriate for accumulating the kinds of information deemed necessary in this survey, is that of a probability sample. The reason for this choice is to insure the probability that each unit of the population has the opportunity to be included in the sample. Population defined for the purposes of this survey is <u>all</u> business and industrial firms in a given community.
   2. The sampling <u>form</u> which appears to be most advantageous for the collecting of relevant information

is a stratified random sample. The basis for this stratification would be "type" of business or industry. The reason for this choice is the need to obtain a sample representation of all the job entry opportunities for a given community, which is identical with the job entry opportunities for the total population.

3. Steps for obtaining this sampling form:
   a. Obtain a complete listing of all business and industrial firms.
   b. Classify all business and industrial firms according to a standardized code which indicates the type of business or industry in which the firm is engaged. (eg., Alphabetical Index of Occupations and Industries, issued by the U.S. Department of Commerce).
   c. Stratify the population on the basis of this standardized code.
   d. Within each strata, each unit is assigned a random number (selected from a table of random numbers). Then these units are re-arranged within each strata, in sequence, from lowest to highest number.
   e. Now it must be determined what per cent each strata represents of the total population and a sample drawn randomly from each strata which represents the same percentage of the sample as that strata represents of the total population. (eg., total number of firms in given community equals 1,000. Construction firms constitute 20 of this total. Therefore, construction firms represent 2% of the total population. Therefore, if the sample size is to be 200 cases, the four construction firms must be included.

4. Results of the application of sample form in survey community:
   a. A listing of all business and industrial firms for the survey community was obtained from the personal property tax roles. These roles were borrowed from the Office of the Tax Assessor. The information available on these roles included the name of firm and address at which the personal property tax was assessed for the year 1962.
   b. these firms were then assigned the proper Standard Industrial Classification, representing their type of business, according to the U.S. Bureau of Census, 1950 Census of Population, Alphabetical Index of Occupation and Industries (Revised Edition), Washington, D.C., 1950. Phone contact was utilized to clarify, in many cases, the actual type of business engaged in by firms, to assure reliable classification.

c. The total number of firms (N=756) were then stratified on the basis of their classification, beginning with Construction firms (SIC #246), and ending with Professional services firms (SIC #899).
d. The units within each strata were then assigned a random number and re-arranged by random number from lowest to highest number.
e. Selection of the sample:
   1) The number of firms for each strata were then totaled and the per cent that each strata represented of the total population was determined (See Table 1, Col. 1, P. 9).
   2) In order to insure the selection of two or more firms from each strata for the survey, it was deemed necessary to select a total sample of 200. In actual practice it is impossible to interview, for example, 4.6 firms, which would be the theoretical number required based upon Col. 1 (for Construction firms), so that for the purpose of sample selection, the number of firms selected was based upon the per cent that each strata represented of the total population "rounded-off" to the nearest whole number (See Table 1, Col. 2).

Following the completion of the interviews it becomes necessary to compare the number of interviews actually completed with the original sample (See Table 1, Col. 3). The purpose for this comparison is to insure that each strata is represented in the final results by the same per cent that exists in the total population. The degree of variation which exists between per cent of firms in a given strata and the per cent of firms for which interviews were completed, must be examined in order to determine the degree of bias that might possibly enter into the final results of the data collected.

Of the total sample drawn (N=200), 77% of the firms selected were contacted. The remaining 23% were incomplete for the following reasons:

9.0	- Out of Business (temporarily or permanently)
5.0	- Unable to schedule appointment
3.5	- Hiring done outside survey community
4.0	- Incorrectly identified on tax assessors roles
1.5	- Refused to answer questionnaire
23.0	- Total

If this survey were to be repeated, it would be safe to assume the necessity of eliminating such a high rate of incompleted interviews (24%). Several solutions are possible: "over-sampling," substitution of other firms within a given strata; or, statistically weighting the obtained responses during the analysis stage of the survey.

TABLE 1

COMPARISON OF TOTAL POPULATION

WITH SAMPLE DRAWN AND INTERVIEWS COMPLETED

SIC	Column 1 Total number of firms in community		Column 2 Total number of sample drawn		Column 3 Total number of interviews completed		Column 4 Difference between Columns 1 & 3	Column 5 "Critical Ratio" Test of significance of difference between Columns 1 & 3
	N	%	N	%	N	%		
246 - Construction	18	2.3	4	2.0	3	2.0	- .3	.8
308-386 - Mfg. Durable	110	14.6	30	15.0	24	15.6	+1.0	.3
406-477 - Mfg. Non-Durable	37	4.9	10	5.0	7	4.6	- .3	.5
527 - Warehousing	15	2.0	4	2.0	3	2.0	.0	.0
606-626 - Wholesale Trade	85	11.2	22	11.0	17	11.0	- .2	.07
636-698 - Retail Trade	263	34.8	70	35.0	55	35.7	+ .9	.2
716-746 - Financial, Real Estate, Ins.	22	2.9	6	3.0	5	3.3	+ .4	.8
806-817 - Business Services	48	6.3	12	6.0	7	4.6	-1.7	2.8 *
846-849 - Personal Services	64	8.4	16	8.0	14	9.1	+ .7	2.3 *
851-858 - Entertainment Services	5	.7	2	1.0	2	1.3	+ .6	2.0
868-898 - Professional Services	89	11.8	24	12.0	17	11.0	- .8	.3
TOTAL	756	99.9%	200	100%	154	100.2%		

At this point a test of significance was applied to determine whether or not the completed sample (N=154) reliably measured the characteristics of the population from which it was drawn.

The task of the test of significance, therefore, was to measure to what degree a statistical variation existed between the percentage a given strata represented in the population and the percentage actually contacted in the sample.

Let's look at the industrial category of Construction to see how this test was applied.

Step 1. The standard error of the difference between the percentage between the population percentage (See Col. 1), 2.3, and the sample percentage (See Col. 3), 2.0, was computed.

Step 2. The critical ratio was then calculated and evaluated in light of Pearl's Table. This table establishes that if the critical ratio lies between 0.0 and 1.96 it can be assumed that there is no difference between the percentage of the strata represented in the population and the percentage represented in the completed sample.

Column 5 indicates that all but two of the strata fall within these limits of confidence and therefore the differences between the percentages are not significant.

There is some question in the case of business and personal services as to just how reliably the firms contacted in the sample measure these strata as they exist in the population. In the case of business services, the probability that differences which occur are based upon "real" differences as opposed to sampling variations is .5 in 100; for personal services the probability is 2.1 in 100. This indicates that in interpreting the results represented by these strata, the question must be continually kept in mind as to how reliably the sample of firms in these strata portray a "real" picture of the characteristics of the firms in these strata in the population. In other words, the degree of error to which a generalization about these two strata may be subject.

The possibility of such errors occurring is greatly increased when the sample is small. By virtue of stratifying this sample, we've reduced the sampling numbers to such a level as to make it extremely important to obtain the same number of completed interviews as are determined necessary in the sample computation, in order to insure the reliability of the information obtained.

B. Method of Data Collection
   1. The method selected for collection of data which would best satisfy the objectives of this survey was the administration by personal interview of a structured questionnaire.
   2. Reasons for selection of this method:
      a. Personal interviews yield a much better sample

of the general population. In the case of mailed questionnaires the return might vary from ten to fifty per cent. The biasing effect of such a high refusal rate could easily destroy any valid conclusions based upon the variables used for stratification.

b. As this survey is designed to measure attitudes as well as facts, it is important that the person who responds on behalf of his company is the person responsible for the hiring of personnel, rather than another party, who's only indirectly engaged in this procedure. Personal contact will allow the interviewer the opportunity to appraise the validity of the respondents position, as well as his general attitude towards hiring of this "type" of employee.

3. Following revision of the instrument based upon a pre-test of the original form, the attached instrument became the tool by which it was deemed the kinds of information sought could best be obtained (See Instrument A, Appendix A).
4. Four interviewers--two teachers from the Detroit School System, and two teachers from the Ferndale School System, were given a brief training session, specifying procedures for the use of the questionnaire. They were then sent into the survey community with data on firms to be contacted and the instruments to be administered.
5. Upon return of the forms the responses were coded and tabulated.

Instrument B

Instruments A and B were designed to survey the same basic population, namely the business and industrial firms in a given community. The difference between the accomplishment of the two instruments rests in what units of the population are to be surveyed.

Instrument A was designed to survey all business and industrial firms.

Instrument B was designed to survey those segments of the business and industrial community which offer the greatest entry job opportunities for the current high school graduates and/or drop-out. It is essentially a depth interview to secure more definitive information on the following points: (See Appendix B)

A. What are the attitudes of employers towards hiring school leavers with no previous full-time work experience?

B. What hiring patterns have been utilized by employers during the past two years regarding high school leavers with no previous full-time experience?

C. For what types of jobs were these high school leavers hired? What courses and skills were required for these jobs?

D. What are the employers practices in connection with the following:
   1. Checking on applicant's ability and educational background.
   2. Testing of prospective employees.

E. How do employers rate specific high school courses as prerequisites for employment?

Outline of survey procedures used for this instrument

A. Sampling Design--Due to the identical nature of the population being surveyed the same procedures were used with this instrument to obtain a statistically valid sampling form.

Selection of the sample

Based upon the tabulation of the data supplied by Question 6, Instrument A, a determination was made as to which segment of the business and industrial community offered the greatest entry job opportunities for the current high school leaver. The three industrial categories, which combined, supplied 74% of the employment opportunities for high school leavers were selected:

Industrial Category	Number of employment opportunities
Manufacturing of Durable Products	49 - 30.6%
Wholesale Trades	21 - 13.1%
Retail Trade	48 - 30.0%
Total	118 73.7%

As the unit of population is the business and industrial firm it becomes necessary to correlate the following two factors before determining the size of the sample to be selected:
1. Per cent of entry job opportunities?
2. Per cent of firms offering these jobs?

The method used for this correlation is as follows:
1. Determine the percentage distribution of entry job opportunities per industrial category.
2. Determine the percentage distribution of firms offering these jobs per industrial category.
3. Determine the per cent of employment per firm. (eg.

in the case of those firms engaged in the manufacturing of durable products, each firm offers 1.1 job opportunities per firm).

4. Determine the number of firms it will be necessary to contact in order to obtain the same per cent of entry job opportunities as exists per industrial category. (eg., for those firms engaged in the manufacture of durable goods, it would be necessary to contact 38.2% of the firms in order to insure that you had explored 42% of the "entry job market").
5. The total number of firms that are classified in these three industrial categories in the population of the survey community are 458 (See Col. 1, Table 1). A total of 122 of these firms were selected for contact with Instrument A, (See Col. 2, Table 1), leaving a remainder of 336. It was then determined that a sample of 50 would represent the three categories adequately. Column 4 gives the necessary number of firms to contact per 100 firms; therefore, by dividing these percentages by 2, we arrive at the required number of firms to be contacted.

Following the completion of the interviews it becomes necessary to compare the number of interviews actually completed with the original sample. Of the total sample drawn (N=50), 88% of the firms selected, were contacted.

The test of significance discussed earlier was then applied to the per cent differences to determine whether or not the completed sample (N=44), reliably measured the population from which it was drawn. It is also indicated that the three strata fall within the limits of confidence, 0.0 to 1.96, and therefore do represent the population from which they were selected.

B. Method of Data Collection
1. The method selected for collection of data which would best satisfy the objectives of this survey was the administration by personal interview of a structured questionnaire.
2. The reasons for selection of this method are stated on Page 5.
3. Following revision of the instrument based upon a pre-test of the original form, the attached instrument became the tool by which it was deemed the kinds of information sought could best be obtained (See Instrument B, Appendix B).
4. Two interviewers were hired by the Urban Research Laboratory at Wayne State University, and following a brief training session, they were sent into the survey community with data on firms to be contacted and the instruments to be administered.
5. Upon return of the forms the responses were coded and tabulated.

Instrument C

This instrument was designed to determine employment patterns of recent school leavers, with specific reference to entry occupations. The instrument (See Appendix C) was divided into three major sections:

A. General background information. This included questions on marital status, high school curriculum, military experience, additional education after high school.

B. Employment information, for initial entry job and current employment status.

C. General information on the high school experience. How could they have been better prepared to enter the world of work?

Part B was the most comprehensive section, and was the one that furnished the most valuable information concerning post high school work activities.

Outline of survey procedures used for this instrument

A. Sampling Design

1. The sampling form which appears to be most advantageous for the collecting of relevant information is a simple random sample. The reason for this choice is that it gives each high school graduate and drop-out in the population an equal chance of being included in the sample as well as any combination of high school graduates and drop-outs.

2. Steps for obtaining this sampling form
   a. Obtain a complete listing of all "current" high school graduates and drop-outs for the survey community.
   b. Assign random numbers to each item to eliminate any systematic order.
   c. Select the desired number of units to be included in the sample by use of the assigned random number.

3. Results of the application of sample form in survey community
   a. A listing of a particular segment of the current high school graduates and drop-outs for the survey community was obtained from the Board of Education, which provided the names of the graduates and their address at the time of graduation.

      Although in theory "current" refers to all high school graduates and drop-outs

between the ages of 16-22, it was decided because of a time limitation for purposes of the pilot study the most expeditious listing obtainable was the class list of a specific graduation class.

The class list of the June 1960 graduates was obtained. This 1960 class was selected as the time period would compare favorably with the period of time for which information was obtained from the employers. (The employers were questioned in December 1962 as to their hiring practices for the previous two year period of time.)

1) Practical problems which occurred in sample selection which prevented a "true" random sample of the population from being selected
   a) The only information that the Board of Education was able to make available was a list of graduates. All the information collected refers to this group and has no relevance to the experience of drop-outs in the survey community.
   b) As the last information available on the location of these graduates was two and one-half years old, this brings up the question of "mobility"--how many would still be residing at the same address? In order to insure contact with a satisfactory number of respondents, telephone contact was initially utilized to determine whether or not the family still resided at their 1960 address. If they did not, an attempt was made to trace the family to their correct location.

Thus the population from which the sample selection was drawn was the graduation class of 1960 who were locatable in December 1962. This constituted a total number of 366 from the original class size of 444.

b. Random numbers were then assigned to the units of the population.

c. It was then determined that by contacting 15% of the population a reliable measurement of the total population would be provided, so fifty-five units of the population were selected randomly.

Following the completion of the interviews it becomes necessary to compare the number of interviews actually completed with the original sample. The critical ratio indicates that both groups of completed interviews reliably measure the characteristics of the population from which they were drawn. This table indicates

contact was made with 52 of the total sample drawn. However in the case of 13 of those graduates contacted, the interviewer was unable to interview them personally and therefore obtained the information contained in Part I of the questionnaire from a member of the respondent's family.

The explanations for those interviews which were only completed through Part I provides the following distribution of reasons:

Respondents	Reason
8	Away in service
4	Away at school
1	Married, out of state
13	Total

B. Method of Data Collection

1. The method selected for collection of data which would best satisfy the objectives of this survey was the administration by personal interview of a structured questionnaire.

2. The reasons for selection of this method are discussed on Page 5. It should be noted that this survey is designed to measure the attitudes of current high school leavers as well as facts, and therefore it is important that the interviewer be prepared to clarify these "attitude" questions, for the purpose of obtaining information which can be classified for purposes of measurement.

3. Following revision of the instrument based upon a pre-test of the original form, the attached instrument became the tool by which it was deemed, the kinds of information sought could best be obtained (see Instrument C).

4. Eight interviewers, hired through the Urban Research Laboratory of Wayne State University, were then given a brief training session, specifying procedures for the use of the questionnaire. It was felt that a greater number of interviewers were necessary for the administration of this instrument, as the time for contacting the respondents was limited.

5. Upon return of the form the responses were coded and tabulated.

PART IV

FINDINGS

Instrument A

Question: What are the attitudes of employers towards hiring high school leavers with no previous full-time work experience?

Answer: Of those responding to this question, 59% (N=154) indicated a willingness to hire inexperienced high school leavers.

Question: What hiring patterns have been utilized by employers during the past two years regarding high school leavers with no previous full-time work experience?

Answer: Of the total firms interviewed (N=154), only 53 firms, or 34% had actually hired high school leavers.

Four industrial classifications accounted for 78% of the hiring:

Manufacturing of durable products	26% of the total
Wholesale trade	17% " " "
Retail trade	26% " " "
Professional services	9% " " "

The remaining 22% is distributed among the remaining seven categories.

Question: For what types of jobs were these high school leavers hired?

Answer: The types of occupations for which male and female high school graduates, with no previous work experience, were hired in the past two years have been grouped according to the standardized occupational codes.

The following four general categories represent 83% of the job opportunities offered by the firms interviewed for the males hired:

Clerical and kindred workers	16.7%
Sales workers	11.1
Operatives and kindred workers	36.1
Laborers (Misc.)	19.4
Total	83.3%

The following two general categories represent 88% of the job opportunities offered by firms interviewed for females hired:

Clerical and kindred workers	75.0%
Operatives and kindred workers	13.0
Total	88.0%

A summary of the industrial categories indicates that the following represent 75% of the past employment opportunities offered by firms interested in male high school graduates with no previous work experience:

Mfg. Durable products	33.0%
Wholesale trade	11.1
Retail trade	30.6
Total	75.0%

It should be noted that the combined categories of wholesale and retail trade constitute 54% of the past employment opportunities for female high school graduates with no previous work experience. The next industry which represent ⅓ of the jobs available for this group is that of manufacturing of durable products. These are the same industrial categories which offered the major employment opportunities for males.

	Male	Female
Mfg. Durable products	33.3%	25.0%
Wholesale trade	11.1	33.3
Retail trade	30.6	20.8
Totals	75.0%	79.1%

Question: What will be the total number of entry jobs available for the next year, for high school graduates and drop-outs with no previous full-time experience?

Answer: The employment picture for this "type" of employee in the year to come appears to differ very little from the picture as it has existed for the past two years. Of the firms interviewed, 66% indicated that it had not hired this type of employee in the last two years, and 69% of the firms interviewed indicated that they had no intention of hiring any such employees in the upcoming year. An additional note must be made at this point regarding the 15% of the firms which indicated an uncertainty as to the number of employment opportunities for the next year. All of the firms who responded in this manner, indicated that "if needed," these employees would be hired, and in some cases they proceeded to give two conditions, either as replacements, or if business improved.

Instrument B

Question: What are the attitudes of employers towards hiring high school graduates with no previous full-time work experience?

Answer: As previously stated, this particular question was designed to measure the "inclination" of employers to hiring high school graduates with no previous full-time experience as opposed to whether or not they have hired such employees.

The data would indicate that 80% expressed a positive inclination towards hiring high school graduates, while 20% expressed a negative inclination. These figures represent a ratio of four out of every five firms expressing a willingness to hire high school graduates with no previous work experience.

When these responses are compared to similar responses for Instrument A, we find an increase in willingness to hire from three out of five to four out of five firms. This increase is to be expected as we are supposedly sampling those segments of the business community which offer the greatest entry job opportunities for the current high school graduate and drop-out.

Firms engaged in Retail Trade indicated a definite preference to hiring females exclusively, with a small percentage (12%) expressing an inclination toward hiring both males and females. One might conclude that job opportunities for males exist to a greater degree in firms engaged in the manufacturing of durable products, while job opportunities for females exist to a greater degree in firms engaged in retail trade, and that firms engaged in wholesale trade displays no appreciable preference.

Due to a revision in Instrument B, more accurate information was obtained concerning the employers' attitude toward hiring non-graduates. The information received on Instrument A dealt with these two groups on a combined basis, while Instrument B yielded information dealing with the hiring of high school graduates and comparable information dealing with the hiring of high school non-graduates.

The data would indicate that the employers interviewed were not as likely to hire non-graduates as graduates. Of those firms contacted, 50% indicated a positive inclination toward hiring non-graduates, while 50% indicated a negative inclination.

It should also be mentioned that those firms contacted indicated a very noticeable preference to hiring male non-graduates as opposed to hiring female non-graduates. Almost four out of every five firms interviewed indicated a preference to male as opposed to female non-graduate employees.

Question: What hiring patterns have been utilized by employers during the past two years regarding high school graduates and drop-outs with no previous work experience full-time?

Answer: Now as to the question of the hiring patterns of specific segments of the business community for the past two years, 41% of those firms contacted actually have hired high school graduates with no previous work experience while 59% of those firms contacted have not. Now in viewing the 41% of the firms who have hired this "type" of employee, we see that half of these firms are engaged in the manufacturing of durable products.

These firms hired a total of 100 such employees, 81% of which were males and 19% of which were females. Almost 80% of this total was hired by firms engaged in manufacturing of durable products. It should also be noted that 50 of the male employees hired were hired by a single firm, leaving only 50 employees distributed among the remaining 17 firms. For every five new employees hired, one of these was a high school graduate with no previous full-time work experience.

Question: For what types of jobs were these high school graduates and drop-outs hired? What courses and skills were required for these jobs?

Answer: The types of jobs for which male and female graduates with no previous full-time work experience have been hired during the past two years are primarily clerical and operative. Of the job opportunities offered, 46% were in the clerical category and 27% of the employment opportunities fell in the general category of operatives. The same two standard occupational categories offered the greatest entry job opportunities for the non-graduates with no previous full-time work experience.

For those firms who hired high school graduates with no previous full-time work experience, the following is a summary of the courses and/or skills required (demanded) as a prerequisite for employment:

None	36%
Courses with business background	36%
Courses with math background	28%

For the non-graduate, 60% of the jobs offered required no courses or skills and 40% required skills related to a business background.

Question: What are the employers' practices in connection with the following: 1. checking on applicant's ability and educational background; and 2. testing of prospective employees.

Answer: Of those firms contacted, 71% never contact an applicant's high school regarding his or her ability and educational background, 18% occasionally contact the high school and 11% always contact the high school.

For those firms who indicated that they always or at least occasionally contact the school, 77% of the firms contact the principal directly.

Of those firms contacted, 86% do not test prospective employees. Of the remaining 14% that do test, 2/3 of the firms require no minimum score for these tests which they administer.

Question: What will be the total number of entry jobs available for the next year, for high school graduates and drop-outs with no previous full-time experience?

Answer: The employment picture for this type of employee in the year to come appears to be identical to the picture as it has existed for the past two years. Of the firms interviewed, 59% indicated that they had not hired this type of employee in the last two years, and 59% of the firms interviewed indicated that they had no intention of hiring any such employees in the upcoming year.

Of these prospective employees, 91% will probably be male with only 9% possible employment opportunities for females.

Once again, the contingency basis for the uncertainty as to prospective employment for the upcoming year seems to be dependent on the need for replacements and possible business improvement.

Instrument G

Question: What type of businesses employed students contacted (N=390)?

Answer: The type of business of their current employer may be summarized:

Manufacturing of durable products	19%
Wholesale Trade	15%
Retail Trade	15%
Professional Services	19%
Total	68%

The remaining 32% were distributed among the remaining five categories.

Question: When did you begin full-time employment?

Answer: Of the respondents, 56% had been employed for a period of time extending from at least a year to two and a half years.

Of the respondents, 36% had been employed less than six months by their current employer.

Only 8% of those contacted are technically "out of work."

In the case of 65% of the respondents, they are still employed in the same job they had upon leaving high school. In other words, these students are still taking advantage of their "initial entry" job opportunities.

Question: What is the present occupation classification of those students who are presently working?

Answer: The present occupational classification of those who were employed would indicate that 48% of them are employed in clerical occupations, 17% as service workers, and 13% as operatives. The remaining 22% are distributed in four other general categories.

Question: Did you have any business retailing, or other special training while in high school?

Answer: Of the respondents, 39% had no business, retailing, or other special training while in high school.

When analyzing the responses of the remaining 61% who did have some business, retailing, or other special training, we find that of the courses which they participated in, 41% of the specialized training was in typing and 19% in shorthand. The next significant was office machines, which was mentioned in 10% of the cases.

Appendix A

INSTRUMENT A

INTERVIEW FOR ENTRY JOB SURVEY

PART I - INTRODUCTION

A. Interviewer introduces himself and whom he represents.
B. Explains the purpose of this survey.
C. Obtains the following information on the firm:
   1. Name of company_____
      a. Type of company_____
   2. Address_____
   3. Person interviewed:
      Name_____
      Title_____
   4. Total number of employees_____
   5. Total number of office employees_____
   6. Total number of employees hired within the last two years_____
   7. Interviewer_____
   8. Date_____
   9. Length of interview_____minutes.

PART II - QUESTIONNAIRE

1. Would you hire high school graduates if they have had no previous work experience? (Ages 16-22)
____Yes (Go to question 2)
____No (Go to question 3)
____Other_____

2. Would these new employees be Male or Female?
____Male
____Female
____Both

3. Would you hire non-high school graduates if they have had no previous work experience?
____Yes (Go to question 4)
____No (Go to question 5)
____Other_____

4. Would these new employees be Male or Female?
____Male
____Female
____Both

5. Within the past two years have you hired any high school graduates who have had no previous work experience?
____Yes (Go to question 6)
____No (Go to question 8)

6. How many were Male and/or Female?
____Male
____Female

7. For what specific jobs were they employed?

Title	Description of Job	What specific courses or skills did you Demand for these jobs?

9. Within the past two years have you hired any high school non-graduates who have had no previous work experience?

a. Yes_____ (Go to question 9)
b. No_____ (Go to question 11)

9. How many were male and/or female?

a. Male_____
b. Female_____

10. For what specific jobs were they employed?

Title	Description of Job	What specific courses or skills did you DEMAND for these jobs?

11. Do you now employ high school co-op students?

A. Yes_____

B. If yes, how many and what type? Office___Retailing___T&I___

C. No_____

D. If no, have you hired them in the past?

Yes_____ Number_____

No_____

12. Do you expect to hire any high school graduates who had no previous work experience during the next year? (and why, probe)

A. Yes_____ (go to question 20)

B. No_____ (go to closing statement)

13. How many male and/or females?

Male_____

Female_____

B. For what specific jobs?

Don't know_____

PART III: CONCLUDING STATEMENT

Appendix B

INSTRUMENT B

DEPTH INTERVIEW FOR ENTRY JOB SURVEY

PART I - INTRODUCTION

A. Interviewer introduces himself and whom he represents.
B. Explains the purpose of this survey.
C. Obtains the following information on the firm:

1. Name of company_____
   a. Type of company_____
2. Address_____
3. Person interviewed:
   Name_____
   Title_____
4. Total number of employees_____
5. Total number of office employees_____
6. Total number of employees hired within the last two years_____
7. Interviewer_____
8. Date_____
9. Length of interview_____minutes.

PART II - QUESTIONNAIRE

1. Would you hire high school graduates if they have had no previous work experience? (Ages 16-22)
   ____Yes (Go to question 2)
   ____No (Go to question 3)
   ____Other_____

2. Would these new employees be male or female?
   ____Male
   ____Female
   ____Both

3. Would you hire non-high school graduates if they have had no previous work experience?
   ____Yes (Go to question 4)
   ____No (Go to question 5)
   ____Other_____

4. Would these new employees be male or female?
   ____Male
   ____Female
   ____Both

5. Within the past two years have you hired any high school graduates who have had no previous work experience?
   ____Yes (Go to question 6)
   ____No (Go to question 8)

6. How many were male and/or female?
   ____Male
   ____Female

7. For what specific jobs were they employed?

Title	Description of Job	What specific courses or skills did you Demand for these jobs?

8. Within the past two years have you hired any high school non-graduates who have had no previous work experience?

a. Yes ___ (Go to question 9)
b. No ___ (Go to question 11)

9. How many were male and/or female?

a. Male ___
b. Female ___

10. For what specific jobs were they employed?

Title	Description of Job	What specific courses or skills did you Demand for these jobs?

11. Do you now employ high school co-op students?

A. Yes_____

B. If yes, how many and what type: Office___ Retailing___ T&I___

C. No_____

D. If no, have you hired them in the past

Yes_____ Number_____

No_____

12. Do you always, occasionally, or never contact an applicant's high school regarding his or her ability and educational background before employment?

A. Always_____ (Go to question 13)

B. Occasionally_____ (Go to question 13)

C. Never_____ (Go to question 14)

13. Who do you contact (principal, school counselor, business teacher)?

A. Principal_____

B. School counselor_____

C. Business teacher_____

D. Other_____

14. Do you test prospective employees?

A. Yes_____ (Go to question 15)

B. No_____ (Go to question 16)

15. What type of test do you use and what is the name of this test?

Type	Name	Minimum Score Required
General Intelligence		
General Aptitude		
1. Clerical		
2. Other		
Achievement		
1. Standardized General		
Clerical (Battery)		
2. Typing		
Length		
Score		
3. Shorthand		
Rate of dictation		
Rate of transcription		
Basis for evaluation		
4. Other		

these tests?
Yes_____ (if yes, fill in beside type test)
No standard_____
Refuse_____
Don't know_____

16. Would you glance at this list of business subjects and tell me how important you feel these are as prerequisites for employment, 1-very important; 2-some value; 3-doubtful value

A. Background courses
Economics_____
Consumer Economics_____
Economic Geography_____
Business Law_____
Business Organization and Management_____
General Business_____

B. Skills
Bookkeeping_____
Business English_____
Business Math_____
Business Machines (What kind?)_____
Merchandising_____
Office Practice_____
Salesmanship_____
Shorthand_____
Typing_____
Retailing_____

17. Do you now use electronic integrated data processing equipment?
Yes_____ (Go to question 19)
No_____ (Go to question 18)

18. Are you planning to use such equipment in the forseeable future?
Yes_____
No_____

19. Do you expect to hire any high school graduates who had no previous work experience during the next year? (and why?)
A. Yes_____ (Go to question 20)
B. No_____ (Go to closing statement)

20. How many male and/or females?
Male_____
Female_____
B. For what specific jobs_____
Don't know_____

PART III: CONCLUDING STATEMENT

INSTRUMENT C

INTERVIEW FOR HIGH SCHOOL FOLLOW-UP

PART I - INTRODUCTION AND PERSONAL DATA

A. Interviewer introduces himself and whom he represents

B. Explains the purpose of this survey

C. Obtains the following information about the individual:

1. Name_____

2. Male____Female____

3. Have you had any military experience?

Yes____Branch of service_____No_____

Did you have any specialized training? Yes____ No_____

What kind?_____

4. Address_____

5. Married_____Single_____

6. High school attended_____

7. Year of graduation (or drop-out)_____
Mo. Yr. Fresh. Soph. Jr. Sr. Grad.

8. High school major_____
college prep, business, general, other

9. Have you had any further education since high school?

Yes____Name of school_____
Dates attended_____ Type of education_____
Mo. Yr.-Mo. Yr.

No_____

PART II - EMPLOYMENT EXPERIENCE

1. What is the name of your present employer?_____
(If not presently employed, go to question 4)

2. What type of business is it?_____

5. What was the date when you began your employment at (name of firm)?

Mo. Yr.

A. How many hours per week do you work?_____
(Go to question 6)

4. How long have you been unemployed? From_____ To_____
Mo. Yr. Mo. Yr.

What is the name of the firm that employed you prior to your unemployment?_____

What type of business is it?_____

What was the date when you began your employment at (name of firm)?

From_____ To_____
Mo. Yr. Mo. Yr.

3. What is the title of your present job (or job prior to unemployment?)

_____

Would you describe the work you do (or did)? _____

_____

(If presently employed ask) Are you presently in the position for which you were originally hired?
Yes_____ (Go to question 6)
No_____ What was the position for which you were originally hired?_____

6. Was this your first full-time job after leaving high school?
Yes_____ (Go to question 8)
No_____ (Go to question 7)

7. What were your full-time jobs prior to your present employment? (List chronologically by date.)

Type of Job	Length of Employment From	To	Reason for Leaving
	Mo. Yr.	Mo. Yr.	

(Use reverse side for additional information.)

8. Did you have any business, retailing, or other special training while in high school?

Yes____ (List courses below and number of semesters.)

No____

Course	Number of Semesters

9. A. Were you on a co-op program?

Yes____ What type? (Office, Retailing, Trade & Industry)

_____

No____

B. Were you on a work experience program?

Yes____

No____

C. Did you have any work experience during your high school years?

Yes____ What kind of work and what are the dates?

Job	Date From	Date To	Approx. Hrs. Per Week

No work experience____

10. Please answer the following questions in relation to your first full-time employment.

a. What specific courses in your major do you most in your initial job?

b. What other experiences, such as clubs, activities, or contacts with specific individuals, helped you on your initial job?

Experience

c. Which of the following office machines did you use (1) frequently, (2) occasionally, (3) never, on your initial job? (Only answer 1, 2 and 3's)

Machine	Use

PART III - PERSONAL INFORMATION

11. Looking back now, how your total high school experience:

a. What activities were the most beneficial? Why?

Activity	Reason

B. What courses were the least beneficial? Why?

Course	Reason

C. What courses do you wish that you'd taken? Why?

Course	Reason

PART IV - CONCLUDING STATEMENT

Date_____

Length of Interview_____

Interviewer_____